

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) A solid-state imaging apparatus comprising:

a solid-state imaging element having a plurality of pixels for subdividing incident light from a photographic subject into a plurality of color signals so as to image the photographic subject, the solid-state imaging element including two sorts of pixels whose spectral sensitivities are different from each other as said pixel for detecting ~~at least~~ one color among said plurality of color signals; and

signal processing means for performing a white balance correcting operation based upon a gain amount corresponding to a sort of a light source with respect to photographed image data outputted from the solid-state image element, said signal processing means including:

mixing ratio predicting means operated in such a manner that when there are plural sorts of light sources as to the incident light, a mixing ratio of illumination light emitted from said plural sorts of light sources is predicted every pixel from photographed image data acquired by said pixels having two sorts of said spectral sensitivities; and

gain amount calculating means for calculating a gain amount used to perform the white balance correcting operation every pixel in response to said mixing ratio.

2. (Current Amended) A solid-stage imaging apparatus ~~as claimed in claim 1,~~
~~wherein said signal processing means further includes comprising:~~

a solid-state imaging element having a plurality of pixels for subdividing incident light from a photographic subject into a plurality of color signals so as to image the photographic subject, the solid-state imaging element including two sorts of pixels whose spectral sensitivities are different from each other as said pixel for detecting at least one color among said plurality of color signals; and

signal processing means for performing a white balance correcting operation based upon a gain amount corresponding to a sort of a light source with respect to photographed image data outputted from the solid-state image element, said signal processing means including:

mixing ratio predicting means operated in such a manner that when there are plural sorts of light sources as to the incident light, a mixing ratio of illumination light emitted from said plural sorts of light sources is predicted every pixel from photographed image data acquired by said pixels having two sorts of said spectral sensitivities;

gain amount calculating means for calculating a gain amount used to perform the white balance correcting operation every pixel in response to said mixing ratio;

means for multiplying a color difference signal obtained from said photographed image data by a color difference matrix so as to correct a color tone; and

color difference matrix correcting means for correcting a coefficient of said color difference matrix in response to said mixing ratio.

3. (Currently Amended) ~~A~~ The solid-state imaging apparatus as claimed in claim 1, wherein said signal processing means further includes light source sort judging means for judging a sort of light source based upon said photographed image data.

4. (Currently Amended) ~~A~~ The solid-state imaging apparatus as claimed in claim 2, wherein said signal processing means further includes light source sort judging means for judging a sort of light source based upon said photographed image data.

5. (Currently Amended) A digital camera comprising:
a solid-state imaging element having a plurality of pixels for subdividing incident light from a photographic subject into a plurality of color signals so as to image the photographic subject, the solid-state imaging element including two sorts of pixels whose spectral sensitivities are different from each other as said pixel for detecting ~~at least~~ one color among said plurality of color signals; and

signal processing means for performing a white balance correcting operation based upon a gain amount corresponding to a sort of a light source with respect to photographed image data outputted from the solid-state image element, said signal processing means including:

mixing ratio predicting means operated in such a manner that when there are plural sorts of light sources as to the incident light, a mixing ratio of illumination light emitted from said plural sorts of light sources is predicted every pixel from photographed image data acquired by said pixels having two sorts of said spectral sensitivities; and

gain amount calculating means for calculating a gain amount used to perform the white balance correcting operation every pixel in response to said mixing ratio.

6. (Currently Amended) A digital camera ~~as claimed in claim 5, wherein said signal processing means further includes comprising:~~

a solid-state imaging element having a plurality of pixels for subdividing incident light from a photographic subject into a plurality of color signals so as to image the photographic subject, the solid-state imaging element including two sorts of pixels whose spectral sensitivities are different from each other as said pixel for detecting at least one color among said plurality of color signals; and

signal processing means for performing a white balance correcting operation based upon a gain amount corresponding to a sort of a light source with respect to photographed image data outputted from the solid-state image element, said signal processing means including:

mixing ratio predicting means operated in such a manner that when there are plural sorts of light sources as to the incident light, a mixing ratio of illumination light emitted from said plural sorts of light sources is predicted every pixel from photographed image data acquired by said pixels having two sorts of said spectral sensitivities;

gain amount calculating means for calculating a gain amount used to perform the white balance correcting operation every pixel in response to said mixing ratio;

means for multiplying a color difference signal obtained from said photographed image data by a color difference matrix so as to correct a color tone; and

color difference matrix correcting means for correcting a coefficient of said color difference matrix in response to said mixing ratio.

7. (Currently Amended) ~~A~~ The digital camera as claimed in claim 5, wherein said signal processing means further includes light source sort judging means for judging a sort of light source based upon said photographed image data.